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Blender learning made easy

blender art

MAGAZINE

Epic Fantasy

Making of - Heads Legs Creature

Making of - Castelo

Making of - The Labyrinth

Making of - Little Ninja Project

COVERART - Nautilus - by Fotis Tsantilas

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COVER ART

Nautilus - by Fotis Tsantilas

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Sandra Gilbert
Managing Editor

An Epic Fantasy is generally set either in a completely fictional world, where of course anything goes...

Epic Fantasy is a very popular genre in both traditional film and animation, as well as the gaming industry.

There are some loose rules or conventions that most Epic Fantasies follow. First, an Epic Fantasy is generally set either in a completely fictional world, where of course anything goes, or it is set in the common everyday world we all recognize, but odd things keep happening.

Second there is always a strong Good vs Evil conflict throughout the story, with the villain (evil) character being just as important as the hero (good) character.

That being established, an Epic Fantasy storyline can be about just about anything you can conceive of. While most Epic Fantasies revolve around magic, fairies and dragons etc, you could just as easily tell a space fantasy with aliens or an adventure with steampunk robots.

In thinking about it, I have seen quite a few ninja tales that qualify as Epic Fantasies. Some of my favorites have combined the beauty of martial arts with fantasy elements such as magical swords, amazing fighting skills that border

on being magical or settings that are not quite of this world.

If you haven't guessed by now, we are covering Epic Fantasies in anticipation of the upcoming Durian Project, which will be officially kicking off in September.

So to get you in the mood and ready for the Durian experience, we have gathered up some inspiring projects, sure to put you in the proper frame of mind for a good Epic fantasy adventure.

We take a look at a great little creature that surely inhabits a fantasy world or two. Then it's off to an enchanting magical castle with amazing lighting, as well as an exciting adventure in mysterious Labyrinth and a fantastic ninja tale.

So buckle up and get ready to be inspired.

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At some point something "odd" is bound to happen. And with the majority of Epic Fantasies, that "odd" thing generally is magical in nature...

Introduction

When creating an Epic Fantasy, whether in a fictional setting or in a more common place one, at some point something "odd" is bound to happen. And with the majority of Epic Fantasies, that "odd" thing generally is magical in nature.

The trick in producing these kinds of things becomes one of how to best create these odd magical events and objects, so that the viewer not only knows that it happened, but that of course it was "magical" in nature. To our benefit, a number of these special effects are easy to set up in Blender.

Appearance / Disappearance Effect

- The first special effect (and probably one of the easiest) I'll explain is having an object (or person) suddenly appear with a simple animation.
- First, make sure your object/person is on a layer that can be turned off. If it isn't, you can move it to a layer that can be turned off. To move an object to a different layer, select it and press **M** >> then from the pop-up menu select an empty layer.
- Next, make sure you are on the right frame. For the purposes of this demonstration, use frame 1. You can use the arrow keys on your keyboard to cycle through frames.
- Once you are on the right frame, apply a keyframe so that the object/person will initially stay on that layer at the beginning of the animation. Select the object/person and press **I** >> then from

the pop-up menu select the Layer that you using to hide your object/person.

- Next, cycle through the frames until you reach the right one you want the object/person to appear. The lower the frame number, the faster the effect.
- Select the object/person and press **M** >> then from the pop-up menu select an empty layer that is visible.
- Finally, apply another keyframe while the person/object is on the visible layer (**I** >> then from the pop-up menu select the Layer that you are using to display your object/person.

To make the object/person disappear, just set it up in reverse. Place the first keyframe on a visible layer and the second keyframe on a hidden layer.

Now this is a very basic and easy effect, but it could use a little polish and added pizzazz to convince your audience that real magic is happening. Here are some things you can try and experiment with:

Key frame the Alpha value of the object/person as it is appearing/disappearing.

In material windows press **I** >> Alpha

- Set Alpha from 0-1 or 1-0, depending on whether you are appearing or disappearing.
- Be sure to set the Alpha key frames to cover several seconds, so that the effect can be seen and appreciated, but not so long that the viewer gets tired of waiting for it.

Use a Build Modifier

The Build Modifier can create the effect of your object/person appearing/disappearing in random stages or pieces. When used with the two previously mentioned techniques, changing layers and Alpha Key framing, the Build Modifier can both create cool effects and be lots of fun to play with.

- For best effect, set up your Build Modifier to start slightly before your object/person appears/disappears.

Add some Halos

Kernon Dillon recently created a set of video tutorials covering "Magic Wand Particles Effects". In addition to creating a magical look in and of itself, this effect could be used to surround your object/person as it performs its appearing/disappearing act. Try it with any combination of the previous techniques.

David Revoy made great use of halos and the Build modifier to create a magical castle in his "Little Fairy" animation. Instructions for his magically appearing castle can be found in Issue #10 of Blender-art Magazine.

Glow Effect:

Glowing objects are always a cool effect and rather simple to implement in multiple ways.

A Very Soft Glow/Color Aura Around Object:

- Create a copy of your object. Depending on the object and how far you want the glow to spread, try to scale up the copy ever so slightly.

- Give the copy a low alpha material (.100-.200) and a pale color (color choice will depend on the object and the look wanted).
- Set the "Emit" value to between 1-2 (might require a few tests for the best look).
- Parent the "glowing" object to the "real" object.
- If you want your glow to actually cast light as well as color, parent a few low energy lamps to the object as well.

Using Lamps:

You can parent several lamps (number of lamps will depend on the size and shape of your object) to your object. Set the energy to a low value (you don't want to blow out your object or scene with overly bright lights)

Use **Lamp >> Sphere** with a very small distance

Depending on your object, you may need to overlap the influence of the lamp distances to get a good result.

Halos:

Halos can create a great glowing look, but be careful when setting the size and energy. Very small values work the best, otherwise you will likely blow out your image.

- Create a simple cage around your object
- Delete only the edges, Keeping the vertices in place
- Apply a halo material
- Remember, use Low Values!!

These are just a few easy examples of how you can quickly create magical effects in Blender. Of course, Blender is capable of creating any number of special effects, it is limited only by your own imagination.

Additional Resources: The following resources cover the use of and creation of some very nice visual effects.

[Foundation Blender Compositing](#)

[Mastering Blender](#)

[Bounce Tumble and Splash!](#)

[Essential Blender](#)

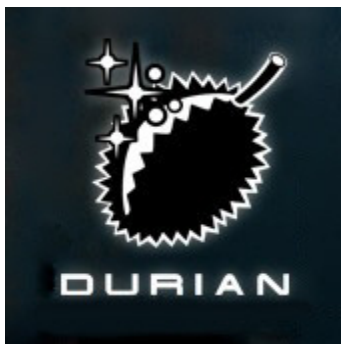
[Creature Factory](#) ■

The Durian Project pre-sale campaign has started

Using a proven method for obtaining project funds, the Blender Foundation has launched it's pre-sale campaign to collect funding for the Durian Project.

The Durian DVD will contain a triple disk set containing the following project goodies:

- The movie (approx 6-8 min) in best DVD quality wide screen format (disks in both NTSC and PAL).
- The HD version of the movie (.avi and/or .mov).
- The third disk with a lot of video tutorials by the artists and developers.
- All .blend files, models, textures, and so on... the material used to create the movie.
- The original script, breakdown, and storyboards.
- Documentation and other tutorials by the team members about all technical aspects the movie; like how to re-use assets, animate characters, or add new shots.



- And of course all the extras we can't predict yet, like commentary tracks, a making-of documentary, outtakes, and so on.

Additionally, if you purchase your set before September 15th, you can have your name added to the credit roll.

They are aiming for sales of 2000 copies, which while ambitious, is totally do-able in our community. They have a "[money meter](#)", where you can go check on the sales progress.

So go [order your copy](#) today and be a part of Epic greatness!

Durian Planning Schedule

Here are the final dates for the Durian Project as well as additional planning information from the official [Durian Project site](#):

- August 24-28: preproduction week for all team members here in Amsterdam (script ready!)
- September: Colin, David and Martin finalize breakdown and work on storyboard
- Oct 5th: Durian project officially starts

As you may notice, it has been shifted a little bit... it was more convenient to move the pre-production workshop until after SIGGRAPH. The month of July, I'll have other urgent work to do as well.

This month, Martin will work on his scenario, with the help of Colin. During August, the rest of the team will get involved with it and we should be able to finalize it all in the workshop here in Amsterdam. Colin and David then stay, working on getting the full breakdown and storyboards ready.

Also great news is that the [Netherlands Film Fund](#) has decided to support Durian! Funding will first be provided for the concept/storyboarding phase. When we show good results, their support will be continued to cover a significant part of our costs!

The last week of September we also will organize an advanced Blender course here, led by Andy Goralczyk, and most likely supported by the Durianers who then hangout here as well. If you want to participate in this great opportunity, [visit this page for more info](#).

Blender Essential Training Release

From Roger Wickes:

Hey everyone! I am SO excited to let you know about my course in Blender Essentials that has come online with [Lynda.com](#). It was a huge effort taking over 6 months to write, record, edit, test, and produce an absolutely top quality course that teaches you how to use Blender. I strongly encourage you to plunk down a few dollars and eliminate the frustration, and come up to speed quickly on this amazing 3D software. You have two choices: basic and premium, and based on the hundred or so tutorial files available to premium members, I strongly encourage you to buy a short or long-term subscription. Lynda is THE leader in video training, and I can vouch for their production quality. Please visit [Blender Essential Training](#).

Course Description:

Blender is a powerful open-source tool for 2D and 3D graphics, full-on animation, compositing, and post-production. It is used to create movies and special effects, even in HD. In Blender Essential Training,

Roger Wickes offers new Blender users a thorough explanation of its interface, tools, and features. He also demonstrates practical techniques and shows how to access the online and open-content resources of this amazing tool. Specific 3D techniques covered include navigating in 3D space, using cameras and lights, and rendering. Roger demonstrates how to rig, animate, and composite a character over live action. Exercise files accompany the course.

Topics Include:

- Navigating Blender's user interface and accessing open assets.
- Modeling with vertices, Bézier curves, and NURBS surfaces.
- Lighting and using multi-point light rigs.
- Working with cameras in a 3D environment.
- Painting and shading 3D objects.
- Creating realistic hair, smoke, and swarms.
- Animating objects and characters.
- Compositing rendered layers
- Sequencing video strips with audio into a final product.

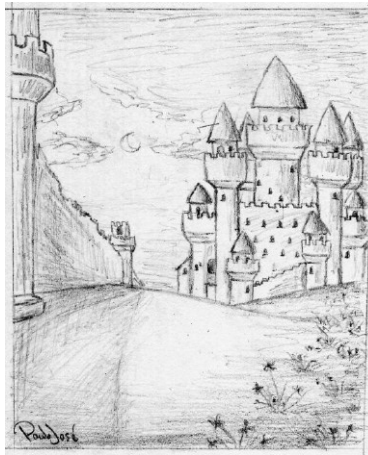
Duration: 10 Hours ■



Introduction

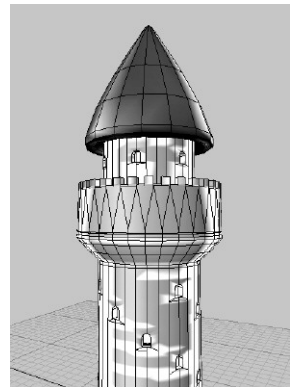
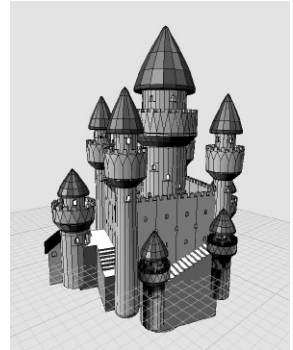
There's one thing that must be said about any CG production. The easy manipulation of digital data makes it possible for artists to do fast changes in most works of art without it resulting in low quality results, which would happen in real world art. This great feature gives us two choices: do pre-production or do not do it. The second way seems be easier and faster, but it hides not evident problems in the development stage like loss of objectivity and time, and low visibility of success. So, it's worth it to spend some time doing pre-production and planning your actions.

My first step in developing the Castle scene, was to draw on paper what I had in my mind. This took me a few minutes and allowed me to develop good ideas. The drawing actually gave me a good view of what to do and how to do it. It's this work that I'll talk about in this article, including special attention to the illumination style and applied techniques.



Modeling Process

Continuing on with this, let's take a look at the mesh modeling. The four towers of rounds was my starting point, being made with a very simple modeling of a primitive cylinder and an array modifier. Then I improved the top towers with spikes and filled it up with windows, which took me some time. I modeled the top cones of the towers using a primitive cone and another array modifier. At last, I unwrapped the meshes and created some primitive stone textures to composite a final stone wall texture using Texture Nodes. The normal maps were generated on Blender using Texture Nodes directly from bump images. For the other towers and stone objects I repeated all of this process. The field is a mesh with a huge amount of texturized strands. The front path is some plane faces with a shrinkwrap modifier applied to the field mesh. The flowers are an object placed on two different particle systems. The moon is a plane with some blend textures. As you can see, a very simple modeling scene.



By Paulo Twain

Knowing How Light Works

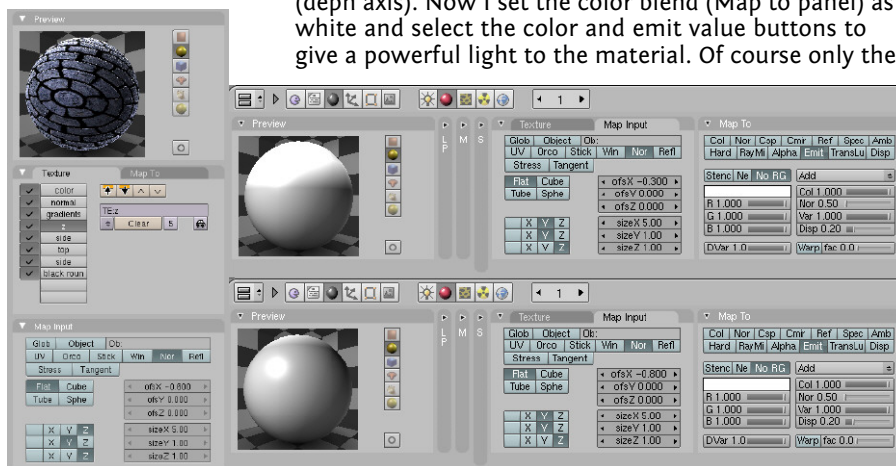
The light effects on camera lenses are a fascinating topic and also a powerful tool to improve quality in your final renders. For example: a vignette effect, creating rounds on the image that become darker and more saturated. It happens in sky photos and large angle planes, as it's on my drawing. I think a great way to start a project is to imagine and understand how light will work in it. So, I tried to apply the concept of a vignette effect in my scene, keeping it in my mind while drawing: to try to make something bright in center of scene, which became produced by the moon and the sky light. I also tried to give a few blurred light and flare lens effects using the Scene Node system to do a good post-production. But I'll talk about this in the post-production section soon. Now, let's talk about the materials used and the illumination of the scene. These are two very important steps in the production process, but with Blender textures this task was easier than it would seem!



color and emit value. For the castle scene I used many normal maps - the greatest way to get a good deep feel - to improve details without many polygons. So, the first layer texture I applied was a normal map, right away the first texture layer of fake light to give a back light, a default blend texture, mapped in by normal (nor button) and coordinates as [X axis to Z axis], [Y to Y] and [Z to Z]. These settings make the light gradient follow the Z axis (deph axis). Now I set the color blend (Map to panel) as white and select the color and emit value buttons to give a powerful light to the material. Of course only the

Fake Lighting by Textures

There's a technique that allows you to generate a controllable light to mesh using textures. It's very easy to use it in a scene, giving a great soft cartoon look with a fast render if combined with AAO illumination. All you need is some blend textures mixed by



emit value makes true light, but if you set the mix mode as “add”, the color value also illuminates the material with overexposed light. The amount of back light can be easily controlled by color and the emit factor. Now the most important setting: the size of “light source”. The scaling and offset controls allow you to change the size of light and make it's hardness or smoothness - as the size of a area light -, you just need to play with the X axis values to see the effects in the material preview panel (select sphere view to get a better preview). Good settings of a back light are X offset of -0.6 and X size of 5.

I just needed playing with (X to X) coordinates (and (X to Y) coordinates (top/bottom light) to have some side light and voilà: a soft bright material! If you prefer to not use any light sources in your scene, set the emit value in the shaders panel as 0.25 or 0.5 and turn on AAO to improve lightning. But remember that emit value isn't affected by AAO or any other shadow type, only the color value will be affected by shadows.

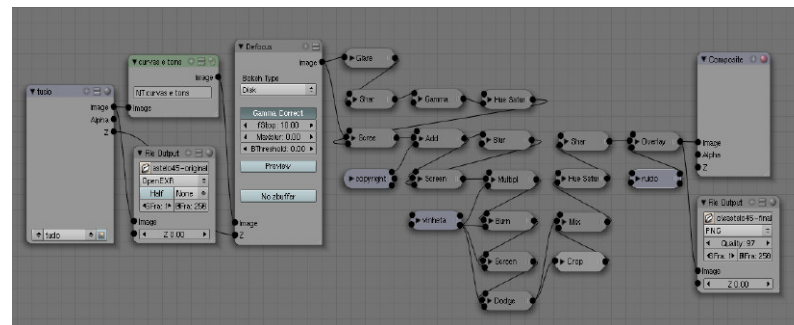
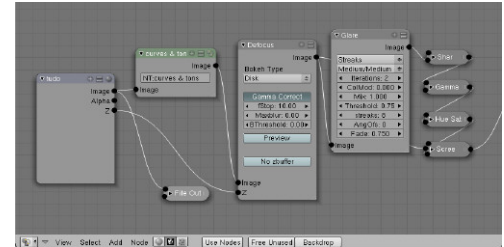
Green grass and background

The grass field was made using strands primitives, as it was said, and to give it a good material I used some textures. One of the textures changed hue value between

tones of green, another giving a gold color to the grass tips, and some others to create a

small light random variation. At first I made a field of grass using just textures, but it didn't give good results in this way. So, the grass by strands seemed to me as a great visual solution, in spite of some render time prejudice.

The sky is a node texturized plane with stars generated by a distorted noise texture combined with a blend textures. The moon is a small plane with a sphere blend texture placed to give this half-moon view.



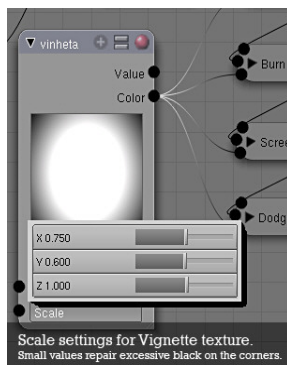
by Paulo Twain

Scene Nodes and Post-Production

I believe the most important step in the Castle Scene was the Scene Composite Nodes, this great and powerful composite system provides a good post-production step. I have to confess, I used many nodes in this scene, so I'll try to compact my explanation.

The first one was a tonemap and a curve node to adjust the general illumination. Then there's a Defocus node to make depth of field. Defocus is a great tool, but unfortunately it doesn't apply anti-aliasing for z-buffer results. I'm still trying figure out how to fix it. After this, there's a Glare node and some nodes to do an add blur effect and to put the copyright layer over the scene.

Back to vignette effect, it's a very especial effect and must be done correctly. I've created a sphere blend texture called vignette, then I changed it's colorband to black circles fading into the white center, and added this texture in the Scene Node Composite (Add menu > Texture). Two mix nodes are now needed: a Multiply node followed by a Burn node, to mix the scene results with the vignette texture. Since my scene is nighty, it was necessary to add one more node to give some light to the center of render, doing a level of light amount. The next nodes just adjust saturation and add a small sharpness effect. The last one added some noise, another important effect. For noise addition, I created another Distorted Noise texture and added it into the Scene Node, mixing by overlay with an small value.



I usually do the post-production process in another software, but this time I've used Blender. I saw it as a big chance to learn how to mix different render layers and improve my knowledge about post-production with Blender's Scene Node Composite tools.

It's incredible how many good effects you can create with the Composite Nodes. Blender is a powerful software with everything we need. You just need to know how to use it. ■

by Paulo Twain

MAKING OF: "Head-Legs creature"

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Head-Legs Creature

Introduction

Description of a combined work flow of blender & 3d-coat

The creation of this creature went in several consequent steps, which I will describe in detail; voxel sculpting, retopologisation, uv mapping, texturing and detail sculpting, adding shaders, adding particles(hair), and setting up a simple light rig.

Voxel sculpting, retopo and texturing happened in 3d-coat, so there are also exporting and baking steps in between. This was a project for me to learn 3d-coat and to see if a mixed pipeline can be productive and time-saving. The whole process took me about 20 hours, but I have to say there were about 8 hours of experiments with dead-ends, especially in the area of baking displacement efficiently, which are not likely to be repeated if you get used to the pipeline.

Voxel sculpting

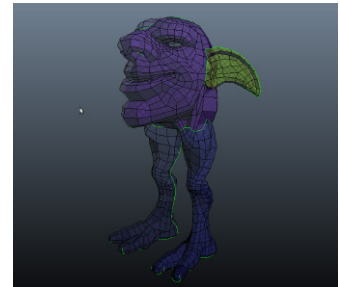
Voxel sculpting in 3d-coat is very easy. With a set of tools very similar to blender's sculpting tools, you start from a sphere and due to the voxel nature of modelling, you bring the model where ever you want. There was no sketch for this model, and actually the



raw voxel sculpt could be considered a sketch, also thanks to the way working with voxels goes. I started with a head, added ears, and later just out of fun, legs. I invented various musculature on the anatomy, just to make everything blend together seamlessly and naturally - as far as it is possible to naturally connect a head with legs and an ass. You can see that compared to human anatomy the legs are quite different. For this stage, only this set of brushes were mostly used: increase(or draw in surface mode), pinch and a lot of smoothing.

Retopologisation

For retopologisation, 3d-coat was used again. I made almost the whole mesh only with the Points&faces tool, which worked quite fast - this stage was done in about 1 hour. It was very easy to follow some kind of optimal quad-flow by just clicking on the object, although I ended up with several tris. Now it seems to me the process might be even faster with the Quad tool. I had to create some more dense mesh in sharp cavities(mouth and around ears), because otherwise the later projection to microverts gave me some minor but hard-to-fix errors.



UV mapping

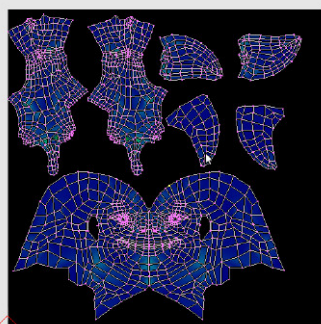
For uv-mapping, I exported the mesh from 3d-coat retopo tool (retopo -> export). Thanks to blender's

By Vilda Novak

great .obj import, I imported the model to blender flawlessly. On import, blender scales down the model to fit dimensions of a typical blender scene, so remember to clear the object's scale whenever you export back to 3d-coat. I very quickly managed to mark seams in blender's edit-mode - mostly with loop selection and vertex path selection. Then I unwrapped the mesh with a single click and got very clean results. I only tweaked the islands' positions. I made a mistake in this stage, since I didn't pay enough attention to the stretch of the uv's on the huge nose. This mistake is visible in the image, but since the pores of the skin in that area are rather big, it doesn't harm the overall feel. After this, I exported the model from blender. In 3d-coat, I removed the original retopo and imported the one created in blender.

Texturing

I merged the mesh to scene as 'microverts'. I did hide the eyeballs before doing this, otherwise these get used for projection too (same was with retopology). This enabled me to texture and detail the model very quickly. First, I added the skin



color in 1 layer - with only color enabled, over this I painted the fine details with the help of various masks in another layer. 3d-coat enables you to sculpt and paint simultaneously, which I used quite widely to add bumps together with subtle color variations. In the third stage, I painted some wrinkles and details on the head in another layer - with displacement painting only.

Export and Baking

After this I exported these textures - diffuse, normal map and specular. I didn't export displacement, since there were mistakes in the 3d-coat projection and I didn't want them to carry over to blender.

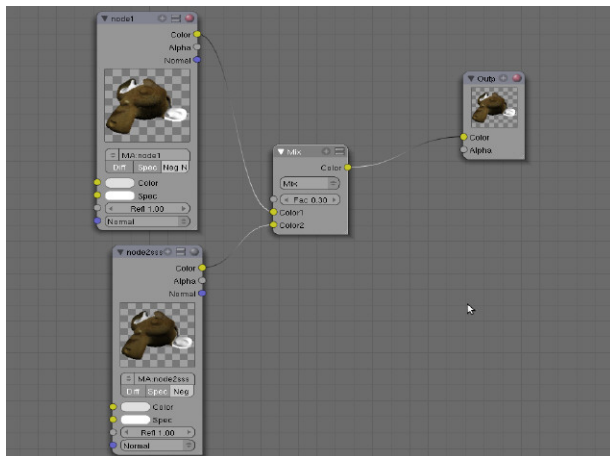
I used the low-poly mesh from retopo in blender, added a subsurf modifier, and created a basic shader with the 3 textures applied on the UV set. I also exported the original voxel sculpt in high-resolution from 3d-coat and baked it in blender to a new texture - I applied scale to both objects, and with the low-poly mesh having subsurf on, I baked the displacement with the 'selected to active' option. The resulting displacement map was almost perfect, but had a few little mistakes around the borders of the mesh - in the eyes, and some badly looking wrinkles on 1 side. I corrected these errors with blender image painting - for the eye edges, I painted with a very small brush set exactly to 0.5 intensity grey color, which means I zeroed-out the displacement in these areas. For the wrongly looking wrinkles, I just used smooth brush. This displacement map was applied after the subsurf modifier on the low-poly mesh as a displacement modifier - with the default intensity settings, which fit perfectly in the case of a blender-generated displacement map. Remember, the displacement map must be a 32-bit image, for me saving as open exr worked best, otherwise you can get ugly banding in the displacement map after reloading the file.

MAKING OF: "Head-Legs creature"

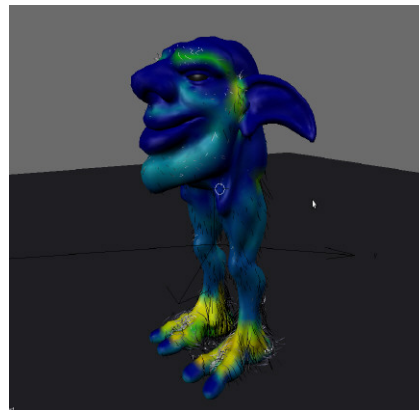
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Shaders

Shaders on the model is a simple mix of two copies of 1 material, where 1 has subsurface scattering turned on and is mixed to the other one with a ratio of 0.3. This is a very quick way of setting up a decently looking skin. Both materials had colormap, normalmap and specular maps exported from 3d-coat, although applying a normal map on the sss material isn't really needed because the bumps get lost thanks to sss.

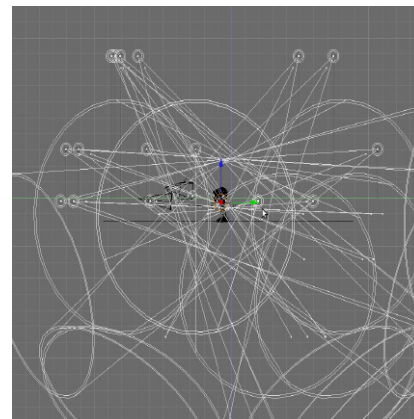


applied. The material for hair was made of a blend texture applied along the strand, combined with color from the model diffuse texture. This gave me an reasonable variation and natural look all around the model.



Light rig

The light rig for this is very simple and almost not worth mentioning - it's just a set of lamps with shadow-buffer enabled, placed randomly around model to get a soft shadow look. I used 16 spot lamps, and 1 omni light without shadow to get a specular highlight in the eyes.



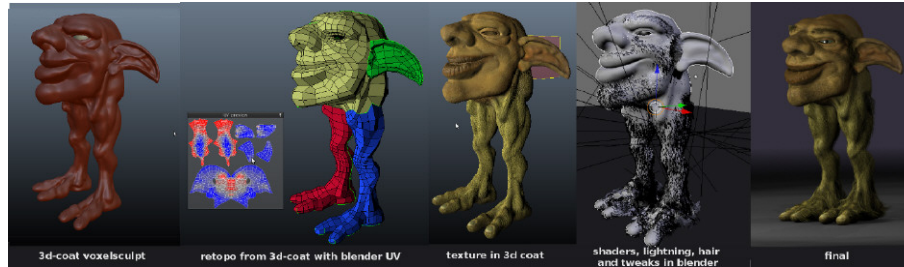
Hair

For Hair, I first painted a single vertex group which served for density and also length of the hair. I added a particle system with the hair option, where I setup a small normal and random speed. I used 2500 parent particles. After this, I made the particle system editable and switched to particle edit mode. I combed the hair quite quickly, and then set children for the particles - 10 per parent. The children have also a very mild wave effect

by Vilda Novak

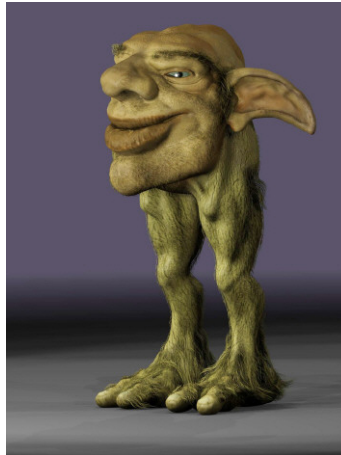
MAKING OF: "Head-Legs creature"

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Rendering

Raytracing wasn't used at all, which made this scene render quite quickly even in a higher resolution - an anti-aliased image(mitchell filter) with 8 OSA samples in the resolution of 1200x1600 rendered in about 15 minutes on my pentium M computer, which means that the image renders in about 2 minutes on newer machines. I rendered several stills, but I also did an turnaround animation. I submitted this animation to renderfarm.fi for rendering, and got it rendered in a short time. You can find this animation on the site, although with some bugs - that's because renderfarm.fi is still in beta stage.



Overall, I was quite satisfied with this combined work flow, harnessing the best parts of both softwares. I hope

this article helps somebody to learn more about blender and it's possible use in combined pipelines. The great export scripts are currently almost ported to the 2.5 version, so good interchange with other apps will be a strong side of blender also in the future. I will also upload the model for learning purposes, so people can look at all the settings to achieve this kind of result.

Here is a [turnaround animation](#) from [renderfarm.fi](#): ■

by Vilda Novak



Introduction

Description of a combined work flow of blender & 3d-coat

Hello, my name is Peter Rabel, I have been using Blender for about 6 years. Mostly my experience has been with compositing animations into live action video. I decided, however, that making an animated short was long overdue.

In this article I will talk about the production of my animated short "The Labyrinth."

Motivation

This project started out as an entry into CG Talk's "Steampunk: Myths and Legends" competition. Due to the sheer magnitude of experience and talent floating around on CG Talk, I knew I didn't have a chance of winning. On the other hand, the competition did provide a good topic, a strict deadline and a wealth of inspiration to draw on from fellow works in progress.

The Process Begins

When I heard of the challenge and started to read the rules and regulations on CG Talk, I was immediately thinking of creating a steampunk version of a minotaur. I had a very vague knowledge of what the actual legend surrounding the creature was. I knew it was part of Greek mythology, I knew it dwelled in a labyrinth and I knew it was half bull and half man. I did a little research and discovered that I did not like the actual story of the legend. So I decided



to write a simple storyline involving a classic Indiana Jones style adventurer after his treasure. That plot line seemed to fit well with the concept of a monster in a maze. So I scripted out the short, made a few concept drawings for the cartoon/steampunk hybrid style characters and set to work on modeling them while I sketched out a few storyboards.



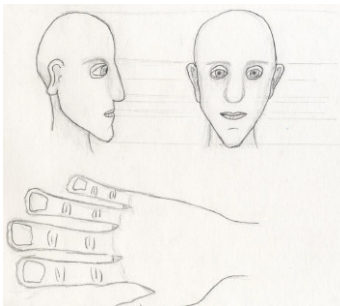
Modeling

I started out modeling the main character (his name is Henry, but it is never mentioned in the short). He didn't prove too difficult to model and he made for a good style reference for when I modeled the minotaur. One decision I had to make when I started modeling him, was what kind of light

By Peter Rabel

source to give him. The storyline called for the lights in the Labyrinth to go out as soon as the minotaur awoke, so I needed to give Henry a way to light the scene for me. After considering a few options (flashlight, lantern, candle, torch, etc...) I ended up going with a miners helmet with a head lamp. I thought it fit his character well and allowed Henry's line of sight to guide the viewers eye. I figured I could get some interesting lighting effects that way.

The minotaur proved much more difficult to conceptualize. I didn't have a good idea of what I wanted him to look like, so I experimented. I looked at a lot of steampunk objects, I learned about how steam engines worked, I browsed through other people's WIP's. Nothing seemed to put an image in my head of what I wanted him to look like. Eventually I sketched out my version of an organic minotaur, then drew a mechanical one beside it, translating it piece by piece. This helped immensely, so I blocked out an organic minotaur in Blender and set to work on modeling the steampunk version. My original design for the steampunk version involved a lot of mov-



ing parts (pistons pumping, fly wheels spinning, etc...), but in the end I decided to go with a much more simple design to blend the minotaur with the cartoon style of the main character.

Texturing

The texturing in this short is not very complex. I wanted it to have a smooth cartoony look without using the toon shader. Henry actually only has one texture on him. That being the leather straps on his helmet connected to his head lamp. I painted their leather texture in Photoshop. The minotaur had a brass texture and a steel texture which I painted. I used Blender procedural textures to make the bump maps on the black iron pieces.



Rigging

I ran into a few problems during the rigging process. Mostly dealing with "snapping" that occurred when I switched from edit mode of the armature to pose mode. One of the biggest things I regret about this animation is not spending enough time on facial rigging for the main character. Henry ended up not having enough bones to make effective expressions. Using exclusively bone deformation for the face and no shape keys was a bad decision.

Animation

There ended up being 36 shots in the final animation. I had a separate blend file for each shot. My base blend file included Henry, the Minotaur, the map, the gem and the maze itself. The maze was formed with an array modifier, so with the base file for each scene it was easy to form the maze as I needed. To animate the maze I simply applied the array modifier for that shot, separated the vertices of the moving part and animated them as objects without rigs. For the shot of the minotaur being crushed, I had to re-rig him quite a bit to allow for the destruction. That was one convenience of having each shot as a separate blend file. Aside from organization, it allowed me to make changes to the file that would not effect any of the other shots.



Compositing

I only did simple transfer mode compositing to put together render passes. I used the blender internal renderer for all of the render passes except ambient occlusion (AO). I much prefer Yafaray's AO to the blender internal. When you render out the blender internal AO by itself (to have more control in compositing), the values of non-occluded areas are gray, not the pure white like Yafaray puts out. That causes your entire scene to darken when you multiply it over the animation. In the case of the Labyrinth, I had to be careful about not making it too dark when the lights went out.

Editing

I began editing the footage I produced from Blender as I finished rendering it. One down side to having each scene in a separate Blend file is that you don't get to see them back-to-back. This can make the decision to render a shot a little scary because you don't know for sure how it will flow in the context of the edit. If the cut from the last shot to the current is too jarring, you have to do it again. Luckily I come from a background of shooting live video, so I have a pretty good feel for how shots will flow together. I did not do much cutting, I wanted to render out just what I needed, so there wasn't too much I wanted to cut. I should have been a lot less conservative with my editing and tightened up the final video, but at that point I had already missed the deadline for the competition by several months.

I watched the animation all the way through, taking notes on each shot to see what sound effects needed to be found or recorded, then I set off to work on Foley. It took just two days to get all of the sound effects in place and put some music under it. Encoding and exporting the final video proved more difficult than I anticipated. I tried many different codecs with different settings, at the cost of three days, before I arrived at a file that was a decent balance between image quality and file size for the web.

Conclusion

I hope you enjoyed this making-of for The Labyrinth. Perhaps I will save some of you from making some of the mistakes that I did during the production. If you have any questions or comments, you can reach me on the Blender Artists forums, my screen name is Asano, or you can email me at Peter.Rabel@gmail.com



Introduction

I've been obsessed with martial arts movies since childhood. I have also spent a great deal of my life playing video games and falling in love with everything 3D. About 5 years ago I discovered Blender and have been slowly learning how to use it off and on with hopes of one day being able to make my own movies and/or be involved in game development. In the back of my

mind I didn't think much was possible without expensive schooling, so my main focus remained in the music industry (which led to working for Syntax Records).

I spent a lot of time searching the Internet for martial arts animations with very few results. A few years ago I found a game fan animation called "Haloid" (Halo Vs. Metroid) created by Monty Oum. I thought it was amazing! It was all done by one person who was entirely self-taught! Suddenly this dream of mine did not seem so unrealistic. Monty was kind enough to answer many of my questions about workflow and production, which pushed me to stop wasting time wishing and get serious about learning to animate. He used Poser for animation, but I wanted to see how well I could do using Blender. Seeing how disciplined, efficient and determined he was at bringing his visions to life, has greatly encouraged me in my own journey to create stories. Technical roadblocks came at me like a stampede in the process, but seeing the example Monty set, kept me inspired and motivated to keep moving forward. Having access to the Internet has been a key part as well. I have spent a great deal of time on the BlenderArtists forum as "Ghost_Train". It's also amazing

how quickly one can find answers to questions on Google.



The Little Ninja Project came about gradually. First I sat down, listened to inspiring music (such as film scores) and let my imagination run freely. If I saw a scene in my head, I would quickly draw simple storyboards while in the heat of the moment. Later I drew rough sketches of the characters, then began modeling and rigging them. The story kept getting too large and complex for my current skill level, so I had to constantly be simplifying everything, which is how it turned into a personal learning project rather than a full on short film. If I did not simplify, I would still be working on the project for the next few years and by then feel burnt out. Because this was my first attempt, I realized it would be more beneficial to start small and work up to something bigger and better.

For each camera change, I saved a new .blend file (Example: 01_01.blend, 01-02.blend, etc). Since I knew what I wanted to accomplish in a shot, I would create all of the required animations in the

Action Editor for each character, then blend and time each action strip in the NLA Editor, along with keying the Body circle (explained in the next paragraph) of each character to move their position as needed. Let’s not forget the IPO Editor. Most of the time IPO curves had to be adjusted while watching the animation play until things moved fluidly enough for my liking. After a shot was finished being animated, I would render PNG image sequences (with alpha channels) for each character, background and foreground separately.

I won’t get too deep into rigging since there are good tutorials out there already, but I did some experimenting with my rigs. I did my best to re-create the setup used in Poser where there is a circle (called “Body”) surrounding the entire rig. The “Body” is created as a separate Armature (with only one bone) set as the parent of the main Armature. This allows the character’s location to be keyed independently. (See Figure A1) For example, you can create a jumping and landing animation in the Action Editor while keeping the hip near its default location, blend the Actions together in the NLA Editor and then key the Body’s jump and landing positions. It’s a sloppy method sometimes, but it provided more flexibility for what I was trying to accomplish.



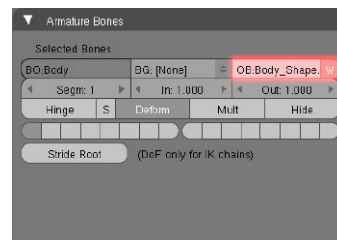
To give the Body armature a shape that is easier to recognize:

- 1 Create a new mesh object of your choosing and edit into desired shape. I started with Add>>Mesh>>Circle

- 2 Select the Body Armature and enter Pose Mode [Ctrl+TAB]
- 3 Go to Edit buttons [F9] and in the “Armature Bones” tab type the name of the object to be used as a custom bone shape. (See Figure A2) Make sure to also enable the “W” so the object is always visible as wireframe.

I highly recommend checking out the Wiki.Blender page for more info on rigging.

Since a lot of the action shots were too extreme for me to act out, I had to rely on what I have observed in movies and my imagination. My animations are nowhere near perfect, but even the minimal experience I have in martial arts definitely gave me an advantage. I used to spend a lot of time on the trampoline doing flips when I was younger too. Considering all of this, I had to close my eyes and visualize each shot in my mind over and over, changing things until it looked right. Besides that, it was just a lot of trial and error.



Blender was the most important part of this project. I used it for modeling, rigging, animation and rendering. I also used Particle Illusion to create dust, smoke and other particle effects. I would import and edit these image sequences into Photoshop through ImageReady, applying motion blur, smudges and other edits. I used Director for compositing all the image sequences together. And lastly, I exported the finished composite to Adobe Premiere for final syncing of video and audio. To create the music, I used FL Studio and Cool Edit Pro 2 for audio editing.

As mentioned earlier, I came across many technical issues while discovering how to rig my characters to do what I needed them to do. For instance I had to figure out how to make my own FK/IK switches for the arms. The biggest problem I ran into frequently, was dealing with the Quat IPO curve. Sometimes I would want my character to do a simple 360 spin, but keying an IPO curve (for X, Y, or Z axis) from 0 – 360 degrees over time, did not give me the results I would hope for. Instead it would spin half way around and then hang there. The work-around was to key more frame-by-frame animation, just to make sure the character would continue spinning. In many cases this may not be a problem, but for action and acrobatic animation, where there are lots of spins, it would have been helpful if there was an option to use an alternative to

Quaternion (hint, hint...Blender Foundation).

Another reoccurring issue was not getting consistent results from Soft Body and the Cloth simulator. I would spend an hour tweaking parameters till the rabbit's ears dangled correctly, but after a while, for no obvious reason, it seemed the simulation became corrupted and no longer worked properly. If only there was a reset button for those simulators. After spending hours wrestling with the features, I ended up deciding to make shape keys to animate ear movement manually.

For this first animation, I chose low-poly to keep things simple. This way I was able to focus more on learning and practicing animation. This also resulted in super



fast rendering (3 to 4 seconds per frame). As far as lighting, I have much to learn. I only used a few basic lamps, sun and hemi lights. I'm not in love with the results, but for what I was trying to accomplish, it really was not that important to have perfect lighting. Instead, I ended up relying too much on color correction for each clip in Premiere.

Currently I am exploring Poser because there are some strong features that may greatly enhance efficiency for creating more advanced action sequences; such as the ability to create motion data libraries that can be applied to any character and the fact that there are no X, Y, Z Quat curves to get in the way. It also makes it very easy to import BVH motion capture data. Those are some things I hope to see Blender become more flexible with, in the future. Either way, I will continue using Blender for modeling and texturing and I am most definitely looking forward to Blender 2.5. For a long time I hesitated to use any other animation software due to my loyalty to Blender, but ultimately, I just want to make movies and I have to use whatever tools are necessary.



I will never forget how incredibly important Blender has been and will always be to me as a 3D artist/ animator. I hope one day I can do something great to give back to

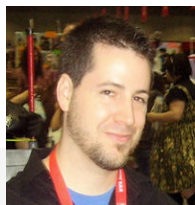
Blender Foundation and the entire community for giving me the opportunity to learn for free what would have otherwise required tens of thousands of dollars that

I don't have. Until then, lets all continue excitedly anticipating Project Durian.

Thanks for reading this article.

Shane Newville

A special thanks to my wife Katie Newville, for her invaluable help in editing and polishing this article ■



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Email: i_awoke@hotmail.com

Links

- 1) [My Music](#)
- 2) [Syntax](#)
- 3) [Monty Oum](#)

Watch Little Ninja Project on any of the following:

- [GameTrailers](#)
- [Vimeo](#)
- [YouTube](#)



by Roger Wickes

Do you want to take some video taken with your camera, integrate some Blender-made CG objects, add some special effects, and upload to YouTube? Oh wait—you need to add your sound track. Wouldn't it be cool to dub in some foley sound effects? How about going into slow motion and increasing the contrast during that fight scene? Of course we need to add a title, make some nice transitions from shot to shot... and the list goes on. If you've found yourself wanting to do this, but not sure how, I've written the book for you, called “Foundation Blender Compositing”, published by Apress under their Friends of Ed nameplate, available through on-line retailers and bookstores (if they don't have it yet, please ask them and they will order it for you).

My decision to write the book started over two years ago, when Tony published his very excellent “Introduction to Character Animation with Blender”. I was inspired by what I saw in that book, namely how a talented author could take one aspect of Blender, dive into it, and fully explore the features, options, and work flow techniques for that one area, and that it took 500 pages or so to really do an adequate job. Previously, I rewrote the Sequencer

section of the wiki, and when nodes were added to Blender, wrote up all the Compositing nodes. While there were several other Blender books on modeling and animation, there weren't any on the “back end”, specifically compositing and post-production, or “post-pro”. In the meantime, I completed a few consulting gigs doing post-production.

So, based on my knowledge gained through all of that, I thought that a book on compositing would round out the Blender library. With that thought in mind, I developed an outline and went looking for a publisher...I didn't have much luck.

The idea languished for about six months until Michelle Lowman, an open source advocate and Blender fan, who worked for Apress, convinced the Apress staff that Apress should have a Blender book, especially since Sybex and other publishers had theirs. She obtained approval and approached the Blender Foundation for recommendations. Since Tony knew of my work on the wiki and being a Certified Trainer, he recommended me, and, as they say, the rest is history.

Well, not quite. Writing a book is a lot harder than it seems. First, that 2 page outline becomes 10

pages, and then you realize that that each line in that outline, each topic, needs to become about 4 pages of written material and one page of screenshots/ pictures. You realize then, that you either don't know enough to write five pages on, say, match-moving a mask, or you write what you know, and it turns out to be a few paragraphs. About that time you realize just how little you know, and so...you have to do research and either really fully explain matchmoving, or find other topics to write about.

I did lots of research, reading what other people have written in their books for Maya, or Max or just general theory. After taking copious notes, I then had to apply those concepts to Blender, chatting with other blenderheads, reading BlenderMag and Blender-Artists, and watching video tutorials until, finally, at some point, I could write enough, in clear enough language, with examples, to really feel that I had covered a topic. Then the challenge became creating a good example, or mini-project, that the reader could follow all the way through the book, from beginning to end.

Did I mention a deadline? Yes, when you write a book, they say, "ok Roger, there are 14 chapters, we want to publish this book this summer. In addition to writing, you need to come up with artwork, example files, oh and by the way, there are three review cycles and two publishing cycles. You write it, Michelle comments on it, Roland reviews it, and then you go around again.. and again, if necessary, until its perfect. We then lay it out and you review that, and then we send you PDFs for you to review and approve." That means you basically get one week to write the 30-page chapter. Needless to say, some of my chapters started out as really rough drafts. I ended up, on average, working about 60 hours a week on the book's initial drafts, for at least the first two rounds of editorial reviews.

Roland was very kind in his comments – thank you Roland. But he was also very sticky, making sure that what I said, or assumed, was actually true. At times he drove me nuts because he was always right, and challenged me to do better, even when I was behind on my deadlines. Finally, at the very end, exhausted, I have a top-notch product that I am very proud of producing in my very lifetime. The DVD has gigabytes of assets that you can use, and tons of example files. It is full color (very expensive to print) so it is very en-

joyable to read. I tried to use examples from Orange and Peach, as well as some BlenderArtists, as well as my own work, to give a blend of styles and a range of material.

I would also like to add that my first book that I read to learn Blender was Carsten Wartmann's "world" book, which I still have and reference. The text and examples in that full-color book were clear and the imagery was beautiful. It is still an inspiration to me both in the way the organization was portrayed, and in the quality of the results shown.

So, I want to thank everyone who helped me, either by loaning me assets directly, or previous authors who have written on some compositing topic that allowed me to adapt those concepts to Blender, enabling all of my readers to become experts in Compositing. Thank you for your support.

Sincerely,

Roger Wickes

You can get your copy of "Foundation Blender Compositing" by Roger Wickes at [Amazon](#) and other fine book stores ■



ÁKOS KESZÁN - FORBIDDEN CAVE



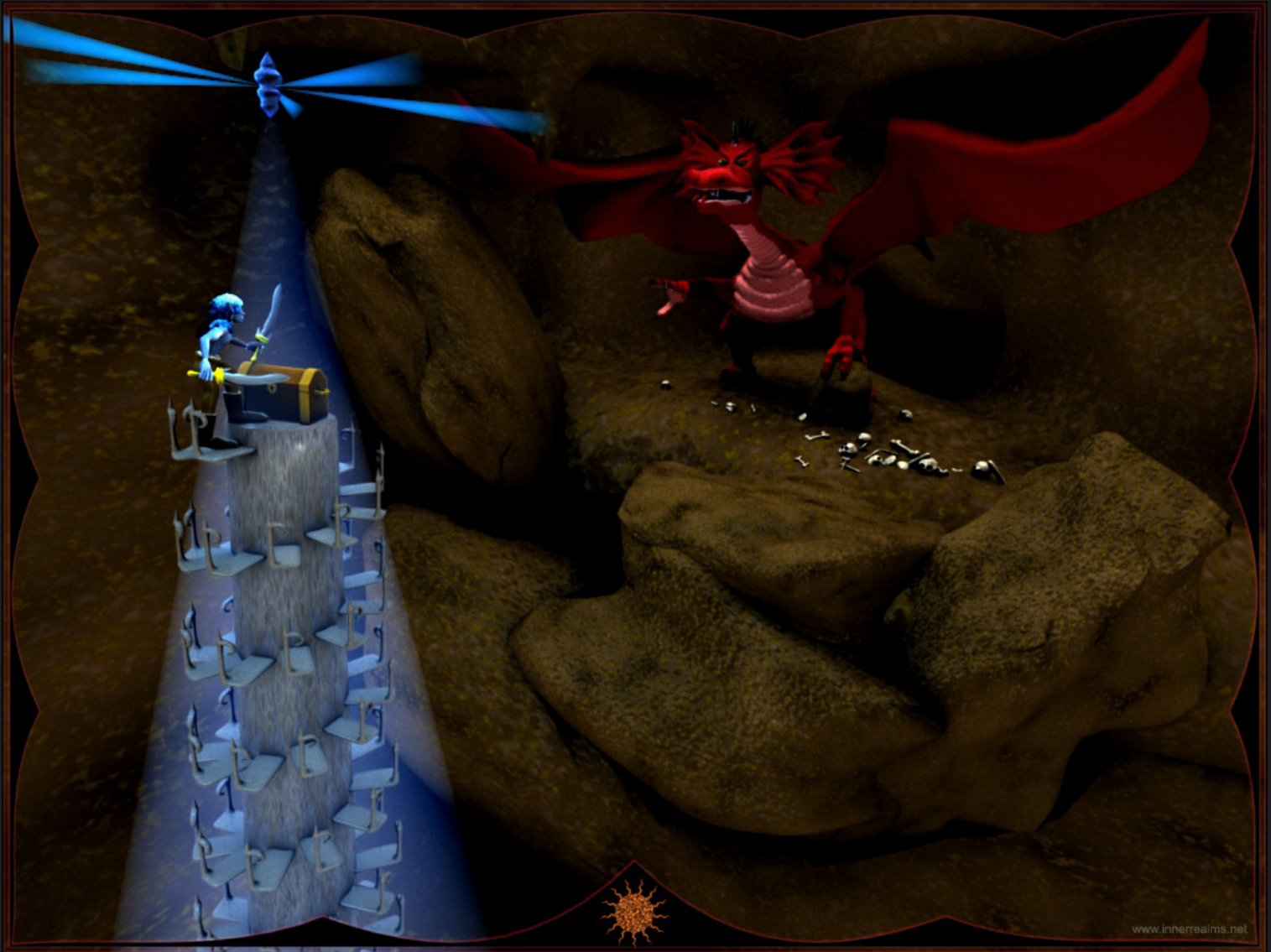


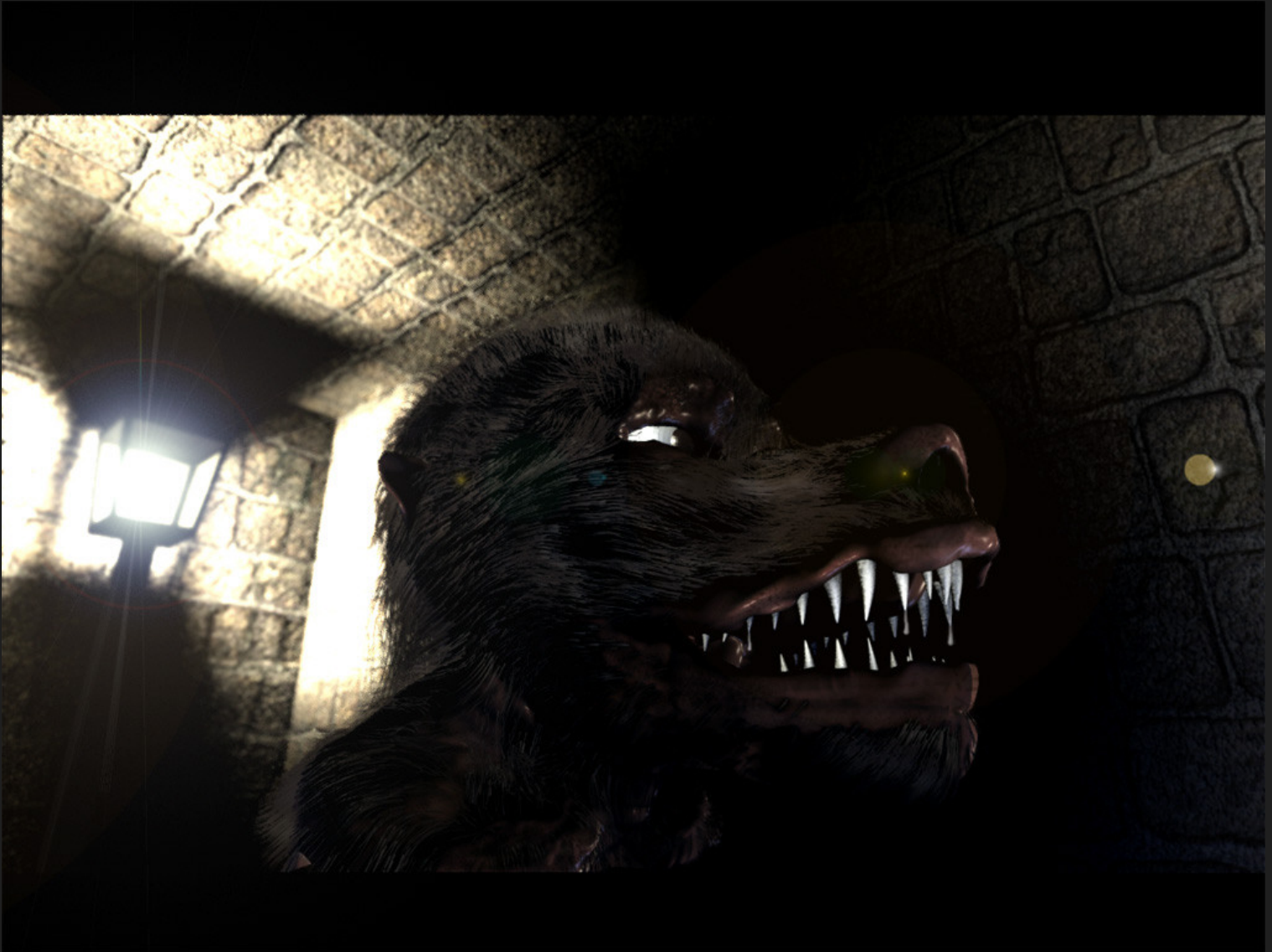
















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37

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- Images are preferred in PNG but good quality JPG can also do. Images should be separate from the text document.
- Make sure that screenshots are clear and readable and the renders should be at least 800px, but not more than 1600px at maximum.
- Sequential naming of images like, image 001.png... etc.
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- Archive them using 7zip or RAR or less preferably zip.

3. Please include the following in your email:

- Name: This can be your full name or blenderartist avatar.
- Photograph: As PNG and maximum width of 256Px. (Only if submitting the article for the first time)
- About yourself: Max 25 words .
- Website: (optional)

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Issue 24

"From Out of the Deep..."

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- Underwater Scenes/Environments
- Caves, coral reefs, plant life
- Underwater cities / sunken ships

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